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An Autobiography and Some Reminiscences of the Late August Fendler. I.

EDITED BY WM. M. CANBY.

Brief notices of the late August Fendler have appeared in several scientific periodicals, but scarcely such as so excellent a man and one so useful to science deserved. Feeling this, a fuller account, consisting of extracts from his correspondence and some personal reminiscences, was prepared by the writer. After this had been done, it was found that, at Prof. Eaton's suggestion, Mr. Fendler had written and sent to him the autobiography which has been kindly furnished, and is here given. The former account, revised and enriched with further extracts from his letters to Professors Gray and Eaton, is appended.

AUTOBIOGRAPHY.

August Fendler, the only child of Mathias Fendler, was born on the 10th day of January, 1813, at the town of Gumbinnen, in the most eastern part of Prussia. When he was about six months old his father, who by trade was a turner in wood and ivory, died. Two years later his mother married again. Little August's parents being possessed of but scanty means, could not do much for the boy in the way of education. Hence it happened that his school training was for a number of years confined to the most rudimental establishment, scarcely deserving the name of a school. When about twelve years old he was sent to the "Gymnasium," a kind of preparatory school for the University. Here he showed more aptitude for mathematics than for Greek and Latin, and after a term of four years his parents, becoming financially embarrassed, were obliged to take him from school. Being apprenticed to the town clerk's office, he soon found that the kind of writing to be done here was to him but a time and spirit-killing employment, during which the longing for a visit to foreign countries grew daily stronger.

At the end of his apprenticeship his first chance for traveling presented itself. He received an offer from a distinguished physician to accompany him in the capacity of clerk during a journey of inspection to be made with regard to the quarantine stations along the Russian frontier of Prussia, which the much dreaded cholera was then, for the first time, fast approaching in its westward course through Europe. F. accepted the offer most readily, and as the

time of starting on this little trip was fixed upon for the next morning, he could not sleep an hour all night for excitement and joy. They had not been long on their journey when the physician received the alarming news that the cholera had already made its appearance in a large Prussian village on the frontier. To this point they hastened immediately. The cholera made sad havoc among the population of the village, and F. was soon surrounded by cholera patients, an unusually great percentage of whom died. The ravages of the cholera in this place finally abated, and F. went home.

He was now troubling his mind more than ever with the question what trade or occupation to choose that would give him a good chance for traveling. If he had but known that there was such an occupation as that of a collector of plants, and that from the sale of them he could clear his traveling expenses, how happy would he have been to prepare himself for it, the more so as he was fond of objects of vegetation. But no such information had ever reached him; he had seen no books describing the species of plants of any locality, and the schools had been silent on the subject.

Having a preference for a trade based upon chemistry, and having been assured that the tanning and currying trade was the one that would take him safely through all Europe and America, he became an apprentice to it, and during two years of steady hard work learned practically most of the various manipulations, disgusting though some of them are to most persons, and trying as they were to his rather slender and light frame of body. He got over all the objections in a most cheerful manner, looking constantly to the future chances for travel offered by his trade.

Meanwhile F. found out that there existed in Berlin a kind of Polytechnic school, the Royal *Gewerbe schule*; in which young artisans, who showed an ability for readily acquiring the physical sciences, were to receive not only free instruction, but likewise an annual stipend of three hundred thalers for three years. The candidates for these favors to be selected, after due examination, two or three from each province of the kingdom. Arrived at this school, the pupils found soon that the vigorous and rapid course of instruction tasked all their mental powers. A small proportion of their number only were able to avail themselves of the whole three years' instruction, all the rest being dismissed as unfit, either at the end of the first or second year.

In the fall of 1834 F. was admitted a pupil to the Royal *Gewerbe schule*, but the continued sedentary life, combined with the strain of mind in studying till late at night, told plainly that this mode of life did not agree with his health. Advised by his physician to desist from any further exertions at this school, he, at the end of the first year, asked for his dismissal, which was granted, accompanied by a testimonial certifying to his "good and very good progress in all the various branches of instruction."

In the autumn of 1835 F., with knapsack on his back, started from Berlin in the capacity of a traveling artisan (*Handwerksbursche*), passing through parts of Silesia, Saxony to Frankfurt, and down the river Rhine, working in several places at his trade, and finally going to Bremen. Thence early in the spring of 1836 he embarked for Baltimore, Maryland, where he arrived with only a couple of dollars in his pocket. In Philadelphia he worked in a tanyard for a few months, but found the work too hard, and after having visited the coal districts of Pennsylvania, he went to New York late in the fall and without money, friends, or employment at his trade, was obliged to go to work in a lamp factory and learn a variety of handicraft more agreeable to him than those of the tanyard. While at New York he witnessed the arrival of the first ocean steamers, the *Sirius* and the *Great Western*. They were side-wheel steamers, and were hailed most enthusiastically by the people of New York. The great money crisis and panic of 1837 depressed the lamp manufacturing business to such an extent that, one after another, all the journeymen of his shop, as well

as the apprentices, had to quit. F. was the last one to leave his employer, until finally in the spring of 1838 the shop was shut up altogether.

F. having made up his mind to go to St. Louis, Missouri, the then "Far West," started as early as possible. The best and quickest route he could find at that time was the following: from New York up the Hudson river to Albany by steamer; then to Buffalo by canal, which took seven or eight days; thence by steamer to Cleveland, Ohio; thence by canal to Portsmouth, on the Ohio river; thence down the Ohio and up the Mississippi by steamboat to St. Louis. The whole journey from New York to St. Louis required thirty days, and at the most economical rate, by taking deck-passage on the steamers, could not be made for less than thirty dollars.

At St. Louis, which at that time had but 13,000 inhabitants, F. got employment as lamp maker with a man who had just commenced making spirit-gas for lighting public houses, as the manufacture of coal-gas had not reached so far west. F.'s wages were good, but getting dissatisfied with the poor tools and the cold and open room he had to work in at the approach of winter, he directed his thoughts towards the sunny South, and resolved to leave St. Louis about Christmas time in 1838. As all the river steamers were ice-bound, he took up his staff and knapsack, the same he used to carry in the old country, and crossing the Mississippi, he commenced his solitary walk through the then thinly settled forests of Illinois, the cane-brakes of Kentucky, and part of Tennessee, where he fell in with two other men bound for New Orleans. As no steamboats from northern ports had yet been able to break the great ice barrier below the mouth of the Ohio river, the three wayfarers joined in buying an old skiff, and in it floated down the great river. Towards evening the same day a steamboat, the first to break the ice, was espied by them coming down, was hailed, boarded, and the skiff abandoned.

Arrived at New Orleans, the talk about Texas induced F. to seek adventures still farther west. Embarked in a steamer and arrived at Galveston in January, 1839. Galveston island at that time contained about a dozen poor-looking houses scattered about its low and sandy surface. From Galveston he went to Houston, the capital of Texas. The government of Texas then granting to every immigrant a "headright" of 320 acres of public land, F. applied for one and received it, but in order to have it selected and surveyed he was required, well armed, to join the surveyors, in order to strengthen their party against any premeditated attack from the wild Comanches who, it was feared, might at any time pounce upon them. But having no rifle, he could not join the surveying party, and hence had to leave his grant of land unselected.

His stay of twelve months in Texas was full of exciting incidents. Having roamed, for the most part singly, the country as far as to the then uninhabited spot (soon, however, to be surveyed by order of the government) where now the new capital of Austin stands, and suffering from a severe attack of bilious fever, F. returned to the nearest settlement, and subsequently to Houston, just in time to be an unwilling witness to the dreadful and distressing sights of the unprecedented ravages of the yellow fever during a period of four months in the summer and fall of 1839. At last, dissatisfied with the country, nearly empty in purse, and broken down in health, he left for Illinois, where for some time he was engaged in teaching school.

Autumn in North America, and especially in the Western States, always presented more charms to F.'s mind than any other part of the year. Hence in 1841, when autumn winds began to scatter the falling forest leaves, he was seized with an uncontrollable desire for solitary life in the wild woods, removed from the haunts of man, in short, for the independent life of a hermit. In his search for a proper place, he came upon a little village called Wellington, situated on the banks of the Missouri river, three hundred miles above St. Louis. Here he learned that an uninhabited island, two and a half miles long, called Wolf's Island, not very far below the village, was at his service.

Without delay, F. packed his little baggage, including some bed-clothes and cooking utensils, a rifle, an axe and some books, in a canoe, also taking along some provisions, and started for his new home. This island was densely wooded with gigantic trees. On the lower part of it, farthest removed from the village, was an old, dilapidated log cabin, the former abode of some wood-choppers. The upper part of the chimney was gone, so that a tall man standing on the outside of it could look down inside upon the low fire-place, from the burrows of which wild rabbits popped forth at the approach of man; part of the roof was gone, and the door carried off. There was plenty of game, however, especially wild turkeys. These latter had chosen the island as a roosting place for the night and as a place of safe retreat in daytime when chased on the mainland by hunters. In a so-called "turkey-pen" they were easily entrapped, and thus an abundance of excellent food secured. To return the borrowed canoe to its owner and to make one of his own was his first aim. So he went to work at a big trunk of a prostrate tree, and with an axe shaped part of it into proper form of a light canoe eight feet long.

Removed from the crowd, the hum and strife of men, his pastimes consisted alternately in trapping, hunting, reading, musing and meditating, and on mild and sunny days in paddling up a placid arm of the river, then turning round lean idly back in his canoe, thus floating home again. Occupied in this way F. lived for about six months, enjoying the sweets of solitude with a satisfaction of inward peace of mind and bliss higher than he had expected—contented and happy as ever mortal man, similarly situated, can claim to be. His feelings of content would at times culminate into feelings of thankfulness, which then found vent in words akin to the soliloquy of Faust at his forest cave: "Spirit sublime! Thou unto me gav'st ev'ry thing I pray for."

Only once he met on the island with a human being, namely, with its owner, coming to see him. How long F. would have continued to live here is hard to say, if the great spring rise in the Missouri river, which began to overflow part of the island, had not taken place. When its waters rose to within a short distance of his cabin he thought 'twas time to leave, and entrusting himself and baggage to his frail canoe, was hurried along at no mean speed by the precipitate rush of the foaming and rapidly swelling stream. Dodging floating logs and broken ledges of ice, he expected every moment to be swamped by the high waves caused by a stiff breeze blowing up stream. To land his tiny craft amidst eddies and whirlpools at Lexington, ten miles below the island, was, however, the most perilous part of the venture.

In 1844 F. sailed for Europe on a visit home. At Koenigsberg he got acquainted with Ernst Meyer, Professor of Botany at the University, who first intimated to him that a certain number of sets of dried specimens of plants for the herbarium might be disposed of at a reasonable price, and advised him on his return to the Western United States to collect and send them on, for sale, to the Professor's address.

On his return to America and to St. Louis, F. assiduously began to collect plants, and took the different species to Dr. Engelman, who furnished him with their scientific names. Different parts of the country, between Chicago and New Orleans, were visited by him for the purpose of collecting. Dr. Engelman observing the zeal of F. for his new occupation, recommended him to Dr. Asa Gray in 1846, during the war between Mexico and the United States. The latter being about to send troops to Santa Fe, New Mexico, Dr. Gray furnished F. with a letter of recommendation from the Secretary of War, by means of which he got free transportation for himself, his collections and luggage. F. arrived at Santa Fe late in the fall of the year, when vegetation on the most interesting part of his route was already dried up. Collecting during the following spring and summer, he was, to his great sorrow, obliged to return to

St. Louis in the fall of 1847, his means of subsistence having become exhausted.

In the spring of 1849 F. started on another collecting expedition over the western plains. This time he intended to visit the Great Salt Lake region. To him the year 1849 proved most disastrous, for in crossing the plains he lost, in the Little Blue river, by a flood that came suddenly upon him, all his drying paper, besides many other things needful on his intended tour, as well as his principal means of transportation, so that he was forced to wait at Fort Kearney for a chance to return to St. Louis. Arrived at the latter place, he found that all his worldly goods, all his collections, all his books, and worse still, all the journals of his travels had been destroyed by the great conflagration that, at the same time, laid the best business quarter of St. Louis into ashes during his absence.

At the close of 1849 F. embarked at New Orleans for Chagres, on the Isthmus of Panama, and after having collected for four months at and above the mouth of the Chagres river, went by the way of New Orleans to Arkansas, collecting plants during the summer at Camden, on the Washita river. The fall of 1850 found him settled at Memphis, Tennessee, introducing and carrying on for three years the camphene-light business in that town and collecting for his herbarium as time would permit. As soon as he found that the introduction of coal gas, in the fall of 1854,[†] made his camphene business unprofitable, he was on the move again and went by way of New York to La Guayra, Venezuela, then up to Caraccas, and after a few months stay in the latter place to Colonia Tovar, situated 6,500 feet above the sea. Here, unattended by any one in his four years' botanical rambles, he scaled the lonely crests and explored the hidden recesses of many a forest-covered mountain range, and through trackless wilds and along the margin of foaming rivulets gathered lots of *Phænogamous* plants, as well as Ferns, Mosses and Fungi. He also paid attention to meteorological phenomena, parts of his observations being printed in the annual report of the Smithsonian Institution for the year 1857.

Having returned to Missouri F. acquired, in 1864, near Allentown, a tract of land densely wooded, which, with the assistance of his half-brother, he began to clear and cultivate. Toiling here for seven years to improve his new homestead, he finally sold it, in 1871, and left for Europe in the spring following to pay once more a visit to his old home with a view to abide there. America, however, had taken too strong a hold on his affections, the more so as he had been for twenty-four years a naturalized citizen of the United States. He returned to its shores in 1873, and, after looking around for some time, settled at Wilmington, Delaware, which he intended to make his final and permanent home. Yet this was not to be. Fearful attacks of acute rheumatism, endangering his life, forced him, four years after, again to break loose and go in search of a more genial climate in more southern latitudes. In June, 1877, he landed in a feeble state of health at Port-of-Spain, on the Island of Trinidad, where he has been busy ever since in making collections of Ferns and *Phænogamous* plants, as well as Mosses.

^{*}About this time (July 25, 1848,) we find the earliest letter to Professor Gray which has been preserved. It gives a pitiful account of his privations and losses, stating, among other facts, that his brother had been obliged to enlist in the army on account of poverty. Later in the year he wrote again, proposing, if proper pecuniary encouragement was secured, to make a collecting tour on the Isthmus of Panama and in California. No arrangement was made, however. In a letter dated August 11, 1853, he states that many of the sets of his Santa Fe collections, which had been sent to Europe, were still unsold. Professor Gray's classic *Plantæ Fendleriæ* has long since made these invaluable, and many botanists would gladly purchase them now.

[†]This date should be 1853, as we find by his letters that he left Memphis on the 16th of November, 1853, and on December 24, of the same year, sailed from New York for Venezuela. The extracts from his correspondence given hereafter illustrate his life at this and subsequent periods.

His notes and observations on botanical subjects are scattered in letters to his correspondents. Besides Botany, Meteorology is one of F.'s favorite studies, and wherever he resided, since 1849, he made daily observations with regard to it.

While at Wilmington F. published a little work entitled "The Mechanism of the Universe," and also translated Goethe's "Faust" from the German original into the English language. This translation is yet in manuscript form.

The Myxomycetes—their collection and preservation.

BY GEO. A. REX.

In the increasing interest manifested by American botanists in the study of mycology, the curious and anomalous Myxomycetes, or slime moulds, have not received the attention which they merit. The study of this border-land group will amply repay those who undertake it, for not only the wonderfully interesting life history and development, but the exquisite structural beauty also, of the matured sporangia of many of the orders, render them objects of peculiar interest.

The true position of the Myxomycetes is yet a disputed point with biologists, but systematic botanists will probably continue to claim them in the future, as in the past. Until the appearance of the monumental monograph of Rostafinski, the scattered and inaccessible literature, and above all the exceedingly meagre descriptions of the older botanists, rendered the determination of species almost impossible without a reference to the scattered types, which were still more inaccessible. Necessarily there was excessive reduplication of species, which is curiously illustrated in the Monograph, by the pages of synonyms of even some of the commoner species.

This difficult work of determination is now rendered easier by later and more accessible literature, especially by Cooke's translation from Rostafinski, of the British Myxomycetes, of which at least seventy-five species are also found in the United States.

It is not the intention of this paper to discuss the origin and developmental history of the plants or the plasmodium from which they are differentiated, but simply to suggest a study of interest to those whose limited time creates a necessity for specializing their work.

In the proper season in favorable locations, there may be seen ramifying on the surface of moist, decaying logs, for example, patches of a semi-fluid slime or plasmodium, varying in size and